

JP 59-225308
DEC 1984
12/18/84

(54) MINUTE GAP MEASURING METHOD AND APPARATUS

(11) 59-225308 (A) (43) 18.12.1984 (19) JP
(21) Appl. No. 58-99370 (22) 6.6.1983
(71) HITACHI SEISAKUSHO K.K. (72) YOSHISADA OSHIDA(1)
(51) Int. CP. G01B11/14

PURPOSE: To measure a minute gap with high accuracy, by a method wherein a part to be measured is irradiated with the minute spot of multi-wavelength coherency light and interference intensity generated by reflected light is detected while separated at each wavelength component.

CONSTITUTION: Light emitted from a multi-wavelength coherency light source 18 is allowed to irradiate the part 101 to be measured between a magnetic head 11 and a glass disc 12 through a minute spot forming means 19 and a beam splitter 21. Reflected light from the magnetic head 11 and reflected light from the back surface of the glass disc 12 advance through the same light path and interference is generated. The reflected lights are separated at every wavelength component by wavelength selecting beam splitters 26~28 and the reflected light from the surface of the disc 12 is blocked through interference filters 29~32 and lenses 33~36 by slits 37~40. Interference intensities are detected by light intensity detectors 41~44 and a minute gap amount is calculated within a short time from a gap proposed value to each wavelength intensity by a calculator circuit 45.

